**Testing, p 232**

1. What is the purpose of testing? List the steps involved.

1.Decide which tests will be conducted.

2.Create suitable test data.

3.Determine expected results.

4. Conduct the test.

5.Record the actual results.

6.Correct any errors.

1. List the different testing types.

Informal (alpha): The part of the solution that has just been finished.

User acceptance (beta): Typical end users use their own equipment to check that the finished solution is accept in real-world conditions.

Component: A single part of a system works properly by its self (for example, a web form applies the correct delivery cost for a given destination)

Integration: Individual parts of a system works together (for example, the web form sends correct data to a separate database)

System: all components in the solution work properly as a single unit.

Installiation: The multimodal authoring software is installed correctly and working on your system, server or domain.

Compatibility: the multimodal authoring software and its components are compatible with a varietu of browsers and OS.

Usability: Whether users can operate the solution quickly and easily.

Accessibility: Whether users with special needs or disabilities can use the solution.

1. What constitutes good test data?

Valid data- Data that is perfectly acceptable, reasonable and fit to be processed.

Valid but unusual data- data that should not be rejected even though it seems odd. A 10-year-old might, once a century, enrol in university. Validation that rejected the young genius’ enrolment would cause embarrassment.

Invalid data- to test the code’s validation routines. For example, if people must be 18 years to be given a credit card, test data should include people under 18 so they can be seen to be rejected.

Boundary condition data- data that is on the borderline of some critical value where the behaviour of the code should change. These ‘tipping point’ errors are a frequent cause of logical errors in programming.

1. What areas should be tested in a MMOS?

Media and plug-ins, hyperlinks, links to external services, readability,

Calculations, loading times, browser compatibility, CSS, Accessibility, Dynamic features and load capacity.

**Testing table,** p 235

1. What is the purpose of a testing table?

A testing table is a commonly used way to record evidence of functionality testing.

**Evaluation**, p 237

1. What is the purpose of evaluation as the final stage of the problem-solving methodology?

It checks how well the solution is satisfying the needs of the user for which it was originally created.

1. Distinguish between evaluation & testing.

Testing checks the functionality of the solution and if it works while evaluation checks how well the solution for fills its main purpose for the end client.

1. When are the evaluation criteria determined? What should they be based on?

Evaluation criteria are determined during the design phase of the problem-solving methodology and are based on the most important qualities that the solution is expected to have when it is designed.

1. Distinguish, with the use of an example, between criteria to evaluate efficiency and effectiveness.

Efficiency can be measured in terms of speed of productivity (work produced in a given time). Profitability (income generated versus running costs) and labour requirements (how much labour is required to achieve its productivity level).

Effectiveness includes completeness, readability, attractiveness, clarity, accuracy, accessibility, timeliness, communication of message, relevance and usability. C.A.R.A.T A.C.C.R.U

**Evaluation methods,** p 238

1. Distinguish between objective and subjective results?

Objective (fact-based, measurable) results are solid fact that are hard to argue with. Measure whenever you can.

Subjective results (emotion s, opinions, personal judgements) can be gained from interviews, questionnaires and surveys. These should only be used when objective measurement is not possible or practical, such as to evaluate how comfortable users feel when using a multimodal solution.

1. When should a solution be evaluated?

Evaluation occurs after the solution has been in regular use for some time so it is well ‘bedded in’ and its users are familiar and comfortable with it.

**Assessing your project plan,** p 239

1. What type of questions can be answered in evaluating your project plan?

* Did the project finish on time?
* Wht tasks delayed your project? Why were these delays not anticipated?
* Could lessons be learned to help the next project finish on time?
* Did the project finish on budget?
* What assumption did we get wrong?
* Why did the task cost far more than expected? How can we avoid that next time?
* Why were new requirements being added just weeks before the system was due to online? Was our analysis a failure?
* Why did the first three prototypes blow up? Was the design team under-skilled, overworked, under-equipped or working to an impossible deadline?

1. In evaluating your project plan evaluation criteria are used to indicate how successful it was in managing your activities. What are some of the criteria you can use?

Completeness: were any significant tasks omitted from the WBS? Were resources included? Was it annotated when required?

Maintainability: How easy was it to modify the Gantt chart to keep it up to data with reality?

Accuracy: Were tasks correctly identified and marked as dependent or concurrent? Were tasks in the right sequence? Were time estimates realistic?

Readability: was it easy to see all tasks and their dependencies? Was the chart and its text of readable size? Were colour choice appropriate?